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XLIX.—*On the Occurrence of the Fingered Naïs (Proto digitata) in England.* By the Rev. W. HOUGHTON, M.A., F.L.S.

To the Editors of the Annals of Natural History.

GENTLEMEN,

Dr. Johnston, in his unpublished 'Catalogue of British Annelids' (for the loan of which I have been indebted to the kindness of Dr. Gray), expresses a doubt whether the rare and curious worm *Proto digitata* has been admitted with sufficient evidence into the English fauna. I am able to give satisfactory proof that this Annelid is an undoubted "British possession," having been fortunate enough in July of last year to make some slight acquaintance with this fingered species of the Naïdine family. I regret, however, that I did not pay sufficient attention to the study of this worm last summer; but, from lack of opportunity of consulting the works of Müller, Grube, &c., and my consequent ignorance that my specimens were of any value as far as a new discovery was concerned, and feeling sure that I had only to wait for another summer to be able to find the worms again in the same spot from whence I had originally taken them, I made but a cursory examination of my specimens. Alas! the summer is gone (if, indeed, we can say that is gone which never came)! and vain have been my numerous visits in search of *Proto digitata*. Nor alone in the summer have I sought the worm; on several occasions both in the winter and spring I have most patiently examined the sand and mud from the water where I had expected to meet with specimens: but my perseverance has been unavailing; I could not renew my acquaintance with *digitata*—not a *finger* would she extend. As, however, this worm is undoubtedly a rare one, and it may be long ere one "looks upon his like again," I will take the present opportunity of briefly noticing it.

This species appears to have been first noticed by O. F. Müller in his 'Würmern des süßen und salzigen Wassers,' pp. 90–102, under the names of "die blinde Naide" and "das Blumen-Thier." In tab. 5, this writer gives several figures of this Annelid in various positions, which on the whole are very fair representations of it. In the 'Vermium terrestrium et fluviatilium Historia,' vol. i. p. 22, Müller notices this worm under the appropriate name of *Nais digitata*, abandoning the name he had previously given it, as the epithet *blind*, being applicable to other worms of this family, could not be considered to constitute a specific difference. Turton (Brit. Faun. 137) mentions this species under Müller's latter name, as belonging to our own fauna; and notices of it are given by Stewart (Elem. i. 391) and Pennant (Brit. Zool. iv. 98, ed. of 1812), but it does not appear that any of these authors had ever seen a living specimen: hence Dr. Johnston's remark, "The evidence on which this species has been introduced into the British fauna is unsatisfactory." Oken (Lehrb. der Naturg. Th. iii. 1. p. 363) appears to have been the first to separate this Annelid from the genus *Nais*, forming what he terms the genus *Proto*; and Oersted (Kröy. Tid. iv. 2. p. 133) notices it under the name of *Proto digitata*. See also Blainville (Dict. des Sc. Nat. lvii. 498, atlas, pl. 1 fig. 1). Grube (Die Familien der Anneliden, p. 105) proposes *Dero* as the name for this genus, and demurs to the *Proto* of Oken, as being one of uncertain derivation: but unde derivatur *Dero*?

I have seen the *Proto digitata* but on one occasion, and was much puzzled, at the first sight of this novel worm, as to what kind of creature I was beholding. Having taken home and put into a glass vessel a small piece of submerged stick which was covered with the commonest of our native freshwater Polyzoa (*Alcyonella fungosa*), my attention was soon drawn to some pink-coloured objects, about 2 lines in length and $\frac{1}{8}$ line in breadth, projecting from the surface of the fungoid mass; the upper end was split into six or eight unequal, digitiform segments, broadest at the base and gradually narrowing to the apex. These segments were ciliated, and doubtless are branchial in their functions. With Müller, I imagined that the object I was beholding was the head and upper portion of the animal, especially when, upon tapping the glass vessel, the creature suddenly disappeared, concealing the whole of that part of its body within the thick and entangled filaments of the polyzoon, reminding one of the similar action observed in the *Melicerta*. Upon further examination, however, I soon discovered that the portion I was looking at was the tail extremity, and that the anterior part was hidden within the interstices of the cœnœcium of the *Alcyonella*. The ciliated segments are in the position

represented in the annexed figures only when the worm is stationary: if it be withdrawn from its habitation, and put into a vessel of clean water, the fingers will close; and then the only difference between the appearance of the posterior and anterior extremity consists in the former being the more obtuse.

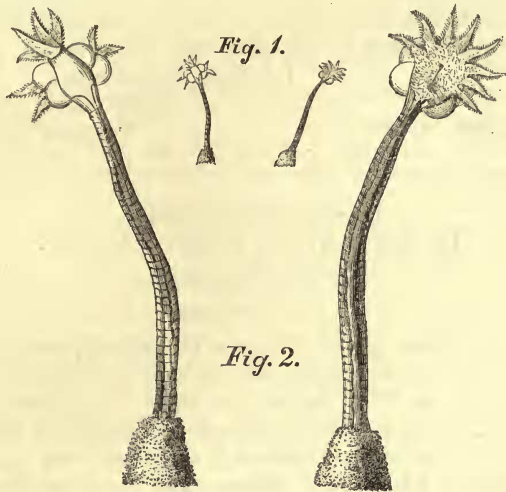


Fig. 1. *Proto digitata* (the Fingered Naïs), about the natural size.
 Fig. 2. The same, magnified.

[After Müller.]

What is the exact position of this Annelid in the animal kingdom? Müller draws attention to the fact that in the general form of the body, which is furnished with lateral setæ, it resembles the *Naïs*; but in the possession of a digitiform tail, in its manner of living, and in its having red blood, it is unlike members of that genus. Grube has noticed the link which this species forms between the *Naïs* and the *Serpula*. I regret I am unable to contribute anything of value in the notice of this curious Annelid beyond the bare fact of establishing for it an undoubted right to claim a place in the British fauna. But this short notice of its occurrence in England may be the means of drawing the attention of British naturalists to a very interesting form of Annelid life.

I subjoin Müller's description of this worm:—

“Oculorum defectu, capite in limo condito, corpore et cauda digitata exsertis, venaque rubra a congeneribus differt. Cauda apice in sex lacinias subæquales, digitiformes, non granulatas dividitur.

Hæ plerumque sursum porrectæ, interdum reclinatæ, liquore vitali torrentis instar fluente spectabiles. Subtus series duplex verrucarum ciliatarum, seu setis tribus instructarum, pedum vices agit.

“*Hab.* In sedimento rivorum arenoso.” (Verm. Terrestr. &c. i. 22.)

The figures which illustrate this paper are copied from Müller’s ‘Würm.’ plate 5. The only locality in which I have found *Proto digitata* is a small strip of water in Malvern Park, Solihull.

The worm is about $\frac{1}{2}$ inch long, and $\frac{1}{8}$ inch broad.

I remain, Gentlemen,

Truly yours,

Solihull, Oct. 16, 1860.

WILLIAM HOUGHTON.

L.—On the Calyceraceæ.

By JOHN MIERS, F.R.S., F.L.S. &c.

[Continued from p. 356.]

5. CALYCERA,

The type of this genus, *Calycera Cavanillesii*, was the earliest known species of this family, having been described and figured by Cavanilles in 1797, under the name of *Calicera herbacea*. The genus is distinguished by the extreme growth of its calycine segments, which become expanded into very long spines. In this respect it approaches *Anomocarpus*, and *Acicarpa*. From the latter it is distinguishable only by its free achænia and by the much greater length which their spinescent lobes attain; from the former it is distinguished by the much greater length of the peduncles that support the capitula, and by the different form of its seeds.

The genus *Gymnocladus* has been proposed by Dr. Philippi (Linnæa, xxviii. p. 705) upon the slender character of the partial abortion of the leaves of the involucre and a globose receptacle, in a plant which otherwise possesses the habit and all the floral characters of *Calycera*. Upon these features we may remark that Richard (Mém. Mus. vi. 34), in his description of the typical species, *Calycera Cavanillesii*, shows that the leaflets of the involucre are wanting, and figures the receptacle as globose, both in that species and in *C. balsamitæfolia* (l. c. pl. 10 A and 10 B). There does not exist, therefore, a single feature in *Gymnocladus* distinct from *Calycera*. In DeCandolle’s Monograph of the family, he enumerates only two species of this genus: four other species are here contributed, with the following amended generic character:—

CALYCERA, Cav., Rich.—Char. reform.: *Involucrum* polyphyllum; *foliola* 5–7, uniseriaria, imo ad torum accreta, subinæqualia,